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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,568	11/28/2000	Ramesh Mantha	13222.00015	9254

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EXAMINER

LE, DANH C

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 06/23/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,568

Applicant(s)

MANTHA, RAMESH

Examiner

DANH C LE

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7-10, 12 and 19-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-5, 7-10, 12 and 19-29 is/are allowed.
- 6) ☒ Claim(s) 30-39 is/are rejected.
- 7) ☒ Claim(s) 40-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30, 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US 5,046,133).

As to claim 30, Watanabe teaches a method of improving reception in a multiple access communications system (figure 4, col.11, line 7-col.12, line 21) comprising the steps of

(i) determining the received power level at a receiver of said at least one determined interfering signal transmitted from a transmitter, wherein said at least one interfering signal is predetermined (col.11, lines 6-39).

(ii) subtracting said at least one determined interfering signal, at said received power level, from the total signal received at said receiver; and

(iii) determining a desired signal from the result of said subtraction.

As to claim 32, Watanabe teaches the method of claim 30 wherein at least two interfering signals are transmitted by said transmitter and said receiver determines each of said at least two interfering signals and their respective received power levels and subtracts those determined interfering signals at their respective received power levels from said total received signal (col.11, line 7-col.12, line 21).

As to claim 34, Watanabe teaches the method of claim 30 wherein said at least one interfering signal is a communication system control signal (col.2, lines 46-57).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 31, 35, 36, 38, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of Dam (US 6,223,040).

As to claim 31, Watanabe teaches the method of claim 30. Watanabe fails to teaches at least one interfering signal is a synchronization signal. Dam teaches the interfering signal is a synchronization signal (col.8, line 56-col.9, line 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Dam into the system of Watanabe in order to enhance system performance of the interference cancellation circuit.

As to claim 35, Watanabe teaches the method of claim 30 further repeating the steps of:

(a) determining the received power level at said receiver of said at least one determined interfering signal, wherein said at least one interfering signal from another transmitter is known a priority (col.11, lines 7-39).

(b) performing step (ii) by also subtracting the interfering signal determined at step (a) at the received power level determined at step (b) from the total signal received at said receiver; and

(c) performing step (iii) to determine, a desired signal from the result of the subtractions.

Watanabe fails to teaches that these signals are transmitted by the second base station. Dam teaches the signals are transmitted by the second base station (col.5, lines 12-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Dam into the system of Watanabe in order to enhance system performance of the interference cancellation circuit.

As to claim 36, the combine of Watanabe and Dam teaches the method of claim 35 wherein said interfering signal determined in step (a) is a non interfering signal to at least one other receiver (Dam, col.8, line 56-col.9, line 5).

As to claim 38, the combine of Watanabe and Dam teaches method of claim 35 wherein said other transmitter is as adjacent base station (Dam, col.5, lines 6-60).

As to claim 39, the combine of Watanabe and Dam teaches the method of claim 35 wherein said other transmitter is an adjacent sector of a multi sector base station (Dam, col.5, lines 6-60).

5. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of Ekemark (US 5,740,166).

As to claim 33, Watanabe teaches the method of claim 32 wherein said at least two interfering signals are transmitted by said transmitter. Watanabe fails to teach a first synchronization signal for determining slot timing in signals and a second synchronization signal for determining frame timing in signals. Ekemark teaches a first synchronization signal for determining slot timing in signals and a second synchronization signal for determining frame timing in signals (col.4, lines 13-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ekemark into the system of Watanabe in order to enhance system performance of the interference cancellation circuit.

6. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe and Dam in view of Ozluturk (US 6,498,784).

As to claim 37, the combine of Watanabe and Dam teaches the method of claim 36. The combine fails to teach the interfering signal determined in step (a) is a pilot signal. Ozluturk teaches the interfering signal determined in step (a) is a pilot signal (col.3, lines 57-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ozluturk into the system of Watanabe and Dam in order to enhance system performance of the interference cancellation circuit.

Allowable Subject Matter

7. Claims 40-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 40, 41, the teaching of above prior arts fail to teach the limitation of comparing the received power level determined in step (a) to predefined threshold level and omitting steps (b) and (c) when said threshold is not exceeded.

As to claims 42, 43, the teaching of above prior arts fail to teach the limitation of step (a) is performed to select, from at least two transmitters, the transmitter with the highest received power level in step (a) and step (b) and (c) are performed for the said selected other transmitter.

Claims 19, 20 are allowed in the previous Office Action.

Dependent claims 2-5, 7-10, 12, 21-29 are allowable for the same reason.

Response to Arguments

8. Applicant's arguments with respect to claims 30-39 have been considered but are moot in view of the new ground(s) of rejection.

On page 16 of the Applicant's amendment, the applicant argues that Watanabe fails to teach the interfering signal is predetermined.

In response, the examiner believes that the interfering signal is predetermined (FM signal, col.11, lines 7-39).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C LE whose telephone number is 703-306-0542. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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